

Electrical Safety Incidents

It's odorless, colorless, found all around us and can be lethal when proper protective measures are not followed when it is encountered. You may have been thinking carbon monoxide gas but in this bulletin we are concerned about electrical energy. There are numerous instances throughout the Department of Energy (DOE) on a yearly basis where employees have been injured, and could have been killed, while working in and around energized electrical systems or equipment.

Why We Are Concerned

In the last two years, over 200 electrical-safety incidents were reported in DOE's Occurrence Reporting and Processing System (ORPS). For example, a construction worker installing guardrails on a masonry wall inadvertently cut through an energized 120-volt conductor in a lighting circuit. In another instance, workers installing an equipment cabinet inadvertently pushed an anchor bolt through a thin concrete floor into an electrical raceway, shorting a 480-volt cable to ground, creating an arc/flash. Further, an ironworker performing demolition work received a mild electrical shock when he cut a conduit that contained an energized 120-volt electrical conductor. The conduit had been mistakenly marked for removal with spray paint.

What You Should Know and Do

Management should ensure that site electrical safety programs fully implement the electrical safety requirements of the Occupational Safety and Health Administration (OSHA) regulations as contained in 29 CFR 1910, Subpart S, and 29 CFR 1926, Subpart K and V. Lessons learned from incident reports and follow up activity at DOE sites should be reviewed for electrical mishaps, including near misses and minor shock instances (see <http://www.eh.doe.gov/paa/do/>) Good work practices, such as those given in the DOE Electrical Safety Handbook (DOE-HDBK-1092-98), should be reviewed for applicability.

What We Are Planning To Do

This Bulletin is to alert you to this hazard that seems to result in weekly events and to make you aware of these preventable incidents. The Office of Environment, Safety and Health (EH) is looking at ways to help deal with these occurrences that may result in tragic outcomes. EH has established a multidisciplinary and integrated working group to examine the types of electrical safety incidents that have been reported, and, working cooperatively with the field, will be identifying actions that can be taken to mitigate these incidents.

For More Information:

See the Electrical Safety web site: <http://tis.eh.doe.gov/nsps/electrical.html>

Electrical Safety Handbook: <http://tis.eh.doe.gov/techstds/standard/hdbk1092/hdbk1092.pdf>